

€ TRAINING

Advance Infrared Thermography



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Introduction:

Infrared thermography IRT is a non-destructive testing NDT method that uses infrared imaging to detect and measure surface temperature distributions. IRT has a wide range of applications in preventive maintenance, predictive maintenance, research and development, and quality assurance.

Course Objectives:

At the end of this course, the participants will be able to:

- Understand the principles of infrared thermography and heat transfer
- Select and operate infrared cameras effectively
- Perform advanced IRT inspections of a variety of assets
- Analyze IRT data and produce professional IRT reports
- Infrared theory and heat transfer
- Infrared camera operation and calibration
- Advanced IRT inspection techniques
- Data analysis and report writing

Targeted Audience:

- This course is intended for engineers, technicians, and other professionals who need to learn advanced infrared thermography techniques. Participants should have a basic understanding of infrared thermography and infrared camera operation.

Course Outlines:

Unit 1:

- Infrared Theory and Heat Transfer
 - What is infrared thermography?
 - Electromagnetic radiation
 - Thermal energy and heat transfer

- Infrared camera components and operation
- Infrared Camera Operation and Calibration
 - Camera setup and configuration
 - Emissivity and calibration
 - Image capture and analysis techniques

Unit 2:

- Advanced IRT Inspection Techniques
 - Electrical and mechanical inspections
 - Building envelope inspections
 - Process control and monitoring
 - Research and development applications
- Case Studies
 - Real-world examples of IRT used to solve real-world problems

Unit 3:

- Data Analysis and Report Writing
 - Software for IRT data analysis
 - Report writing and presentation techniques
- Hands-on Lab
 - Participants will have the opportunity to practice their IRT skills on a variety of assets

Unit 4:

- Advanced IRT Inspection Techniques continued
 - Thermography of rotating equipment
 - Thermography of transformers and switchgear
 - Thermography of photovoltaic systems
- Case Studies continued

- Real-world examples of IRT used to solve real-world problems

Unit 5: Certification and Closing Remarks

- Data Analysis and Report Writing continued
 - Advanced data analysis techniques
 - Report writing and presentation techniques